

Applicant : Robert E. Richardson, Jr., et al.  
Serial No. : 10/817,415  
Filed : March 31, 2004  
Page : 10 of 12

Attorney's Docket No. 84773

### REMARKS

Claims 1-30 are pending, of which claims 1, 10, 11, 12, 14, and 21 are independent, and claims 7-9 and 23-25 are withdrawn. By virtue of this response, claims 1, 4, 10-12, 14, 18, and 21 are amended, either to correct minor informalities and/or as discussed in more detail below, and claims 26-30 are newly added.

Claim 10 is allowed, and claims 6 and 20 are objected to as being dependent from a rejected base claim(s), but would be allowable if re-written in independent form. Applicant thanks the Examiner for this indication of allowable subject matter.

Claims 1, 11, 12, 14, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No.: 5,124,662 to Downing et al. (Downing). Claims 2 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Downing in view of U.S. Patent No. 3,603,875 to Coulter. Claims 3 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Downing in view of U.S. Patent No. 6,263,744 to Russell et al. (Russell). Claims 4, 5, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Downing in view of Russell and further in view of U.S. Patent No. 4,015,464 to Miller et al. (Miller). Claims 13, 15, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Downing in view of U.S. Patent No. 6,563,250 to Mathur.

Regarding the rejection of independent claims 1, 11, 12, 14, and 21 under 35 U.S.C. 102(b) as being anticipated by Downing, Applicant respectfully submits that Downing does not disclose or suggest all of the elements of at least these claims.

For example, amended independent claim 1 recites, "a suction device for directing an airborne particle through the high E field sensing region of the cavity." An example of such a suction device is shown in the description at, for example, the vacuum source 42 of FIG. 1.

Downing, in contrast, does not disclose such a suction device. Therefore, Downing does not disclose every element of the amended claim for at least this reason, so that the rejection under 35 U.S.C. 102 is inappropriate, and should be withdrawn.

Further, Applicant submits that Downing is directed to "...particles (that) are classified by locating them in a resonance cavity..." (see Abstract, lines 1-2), where the described particles include, "particulate ore material, e.g., diamond or diamond bearing particles, or mineral samples

Applicant : Robert E. Richardson, Jr., et al.  
Serial No. : 10/817,415  
Filed : March 31, 2004  
Page : 11 of 12

Attorney's Docket No. 84773

from a geological exploration (see column 4, lines 49-55). Downing discloses that such particles may be passed through the center of a cavity 10 "in any convenient manner, for instance by causing the particles to fall one by one under gravity along the required path," and that the particles may be transported "on a conveyer belt and then be projected in free flight from the conveyor belt so as to fall through the cavity 10 one after another" (see column 2, line 56 – column 3, line 1).

As a result, Applicant submits that Downing may not properly be modified to include the claimed "suction device" because neither Downing nor any art of record properly suggests "a suction device for directing an airborne particle through the high E field sensing region of the cavity." Moreover, Downing, as just described, is related to particles of a size that (absent some teaching or suggestion to the contrary) would not reasonably be considered for direction by a suction device, as claimed. In this regard, Applicant respectfully submits that the phrase, "any convenient manner" in line 62 of column 1 of Downing does not properly suggest the claimed "suction device," since there is no disclosure or suggestion in Downing (or any other reference of record) that such a suction device, would, in fact, provide a convenient manner for directing particles of the size(s) disclosed in Downing.

Additionally, and consistent with the above arguments, Applicant submits that claim 26, which is dependent from claim 1, recites a "suction device is operable to direct an aerosol distribution of the airborne conductive or dielectric particles, including the airborne particle." As just described, Downing does not disclose or properly suggest such an aerosol distribution, so that dependent claim 26 is allowable for at least this additional reason.

In this regard, Applicant further notes that the present Office Action refers to, e.g., Russell, for teachings regarding "an automated mobility-classified-aerosol detector" (see Office Action, page 5, line 3). Without agreeing to any description, characterization, or conclusion of the Office Action with respect to Russell (or any other cited reference(s)), Applicant submits that a mere showing of a system related in some general sense to an aerosol distribution of particles does not provide proper motivation to modify the system of Downing to include such a distribution. In other words, for example, there is no proper suggestion in either Downing or any of the art of record that the system, methods, and/or techniques of Downing would have or could have been adapted to operate on the claimed "aerosol distribution."

Applicant : Robert E. Richardson, Jr., et al.  
Serial No. : 10/817,415  
Filed : March 31, 2004  
Page : 12 of 12

Attorney's Docket No. 84773

Independent claims 11, 12, 14, and 21 also recite a "suction device," so that the above arguments are at least equally applicable to these claims. Accordingly, Applicant submits that claims 1, 11, 12, 14, and 21, along with their dependent claims 2-6, 13, 15-20, 22, and 26-30 are allowable for at least these reasons. Further, claims 27-30, which depend from claims 11, 12, 14, and 21, respectively, also recite the "aerosol distribution" referred to with respect to claim 26, so that dependent claims 26-30 are believed to be allowable for at least the additional reasons set forth above.

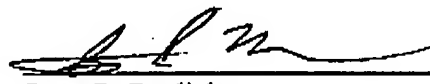
Applicant further submits that since generic claims 1 and 14 are allowable, claims 7-9 and 23-25, which depend from claims 1 and 21, respectively (and despite being withdrawn by virtue of the Restriction Requirement of April 13, 2005) are also in condition for allowance for at least the same reasons, and should now be allowed together with allowable generic claims 1 and 14.

As discussed above, claim 10 is currently allowed, so that all of claims 1-30 are believed to be in condition for allowance.

Please apply any charges or credits to Deposit Account No. 50-0967.

Respectfully submitted,

Date: September 10, 2005

  
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